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EXAMINER

BAKER, STEPHEN M

ART UNIT	PAPER NUMBER
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2133

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/629,644

Applicant(s)

AMER, MAHER

Examiner

Stephen M. Baker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 14-20 is/are rejected.
- 7) ☒ Claim(s) 12 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>041504</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because: "the second subset of the subset" apparently should be "the second subset or the subset". Correction is required.

See MPEP § 608.01(b).

2. The disclosure is objected to because of the following informalities:

On page 3, in line 4, "the or each of" apparently should be deleted.

On page 3, in line 15, "encoding" apparently should be "encodings".

On page 3, in line 29, "is activated" apparently should be "are activated".

On page 4, in line 1, "bee" apparently should be "been".

On page 4, in line 14, "dat bits form" apparently should be "data bits from".

On page 5, in line 8, "fist" apparently should be "first".

On page 5, in line 14, "encodes" apparently should be "encode".

On page 5, in line 14, "parallel bitwise" apparently should be "bitwise parallel".

On page 5, in lines 26-27, the intended meaning of the sentence is unclear.

On page 6, in line 4, "he" apparently should be "the".

On page 6, in line 22, "in – nth" apparently should be "in = nth".

On page 7, in line 6, "dat" apparently should be "data".

On page 7, in line 17, "is valid" apparently should be "are valid".

Appropriate correction is required.

Claim Objections

3. Claims 6, 9, 10, 16 and 17 are objected to because of the following informalities:

In claim 6, line 10, "encoding" apparently should be "encodings".

In claim 9, line 14, "is activated" apparently should be "are activated".

In claim 10, line 2, "parallel bitwise" apparently should be "bitwise parallel".

In claim 16, line 13, "dat bits form" apparently should be "data bits from".

In claim 17, line 1, "parallel bitwise" apparently should be "bitwise parallel".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-5, 14, 15, 19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 7, "the or each of" apparently should be deleted.

In claim 14, "said single bit submodules" lacks an antecedent basis, apparently because the claim should depend from claim 12.

In claim 15, line 2, "single" apparently should be "single bit", and "said subset immediately" apparently should be "said subset of said immediately".

In claim 19, lines 3-4 and 5-6, "said subset" lacks a definite antecedent basis, there being more than one "subset" previously recited.

In claim 20, line 3, "said subset" lacks a definite antecedent basis.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-4, 6, 7, 9-11 and 16-18 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,442,729 to Kim *et al* (hereafter "Kim").

Kim discloses a convolutional coding arrangement suited to implementation on a DSP. With reference to FIG. 2 of Kim, a "set of data bits" is received in a 16-bit register (b_0 - b_{15}) providing a "first receiving means" and a "second receiving means." In Kim's arrangements, a "subset of said set of data bits" (b_0 - b_3) is processed by XOR logic of a "first encoding means" for "encoding in parallel" with "at least one other subset of data bits" (b_4 - b_{15}) to produce "at least one first set of output bits" ($G_0(4-7)$ - $G_1(4-7)$).

Simultaneously in Kim's arrangements, "said subset of said set of data bits" (b_0 - b_3) is processed with XOR logic of a "second encoding means" for "encoding in parallel" with "at least one previous subset of data bits" (c_0 - c_3) stored in a "storage means" to produce "at least one second set of output bits" ($G_0(0-3)$, $G_1(0-3)$). The bits in registers (c_0 - c_3)

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are taken from registers (b_{12} - b_{15}) of the previous word, necessarily by a "switching means," and thus "said previous subset" is "a subset of a previous set of data bits."

Regarding claims 6, 10 and 17, encoding as described above is "bitwise parallel."

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim.

Kim does not disclose using only some convolutionally-coded bits in dependence on the desired coding rate. Official Notice is given that it is well-known and conventional to discard some of the bits generated by a convolutional code in order to provide the advantage of a variable rate code. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use only some of Kim's convolutionally-coded bits, in dependence on the desired coding rate. Such an application would have been obvious because it was already well-known and conventional to discard some of the bits generated by a convolutional code in order to provide the advantage of a variable rate code.

Allowable Subject Matter

10. Claims 5, 14, 15, 19 and 20 would be allowable if rewritten to overcome the rejections under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

11. Claims 12 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion


12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. Baker whose telephone number is (571) 272-3814. The examiner can normally be reached on Monday-Friday (11:00 AM - 7:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Stephen M. Baker
Primary Examiner
Art Unit 2133

smb